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ABSTRACT

Advocates of residential education have isolated three determinants of residential adult education effectiveness: isolation from the outside environment; concentration on content; and group support. This study investigated the independent and collective relationships of different levels of these determinants with cognitive gain and posttest achievement. Eighty-four subjects in four similar five-day introductory programs and 20 in a seven-day advanced program made up the sample. Five of the six hypotheses which guided the study were rejected, but the advanced program resulted in findings which tend to accept the conceptualization of a residential adult education temporary system. Perception of isolation generally related positively to cognitive achievement; content concentration seemed to be influenced by group support; and group support generally related negatively to cognitive achievement. On the average, achievement was the best predictor of cognitive learning, but group support overrode the positive relationship in the advanced program. The findings indicate functional benefits from use of a temporary system model in residential education studies. They emphasize a vast difference between the theoretical descriptions of residential education and actual program effects. (Author/NL)

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DETERMINANTS OF RESIDENTIAL ADULT EDUCATION EFFECTIVENESS

A STUDY
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DETERMINANTS OF RESIDENTIAL ADULT EDUCATION EFFECTIVENESS

This research was designed to investigate relationships of group isolation, content concentration, and group support residential adult education determinants by testing levels of conformity to the determinants with cognitive learning. Recognition of inevitable differences in the predispositions of short course participants prompted an added test designed to find if the participants' scores on the determinants or their need for achievement best predicted their cognitive achievement.

The three determinants were conceptualized in a temporary system model which was applied to conditions at four residential short courses. Eighty-four subjects at three essentially identical five-day introductory programs and twenty subjects at a seven-day advanced program made up the sample. The results are interpreted in the context of each data source.

Five of the six hypotheses which guided the study were rejected, but the advanced program resulted in findings which tend to accept the conceptualization of a residential adult education temporary system. Perception of group isolation generally related positively with cognitive achievement; content concentration seemed to be influenced by group support; and group support generally related negatively with cognitive achievement. On the average n achievement was the best predictor of cognitive learning, but group support overrode the positive relationship at the advanced program, indicating that the program milieu can, indeed did override personal differences at a residential education program in which educational and social functions were integrated into a continuous short course experience.

The findings indicate functional benefits from use of a temporary system model in residential education studies. They emphasize a vast difference between the theoretical descriptions of residential education and actual program effects. They also indicate procedures which might make residential programs effective.

THE PROBLEM

More than a third of a century ago the University of Minnesota established the first specially designed campus facility for residential adult education.[1] Now at least eighty-six university operated residential centers for adult education serve most areas of the United States.[2] Common justification for constructing these facilities is that the use of the facilities will result in unusually effective educational programs. Although the development of such convenient facilities encourages faculty members to engage in conference activity, the claim of residential education effectiveness remains more a statement of faith than an empirically tested conclusion.

Background of the Problem

Educators and administrators who believe that qualities of educational excellence are inherent in residential education have contributed to the current emphasis being given residential adult education. This belief, which stems from a long history of European residential education, was formally identified at the University of Minnesota in the 1930's and it received international attention in the 1950's when advocates of residential adult education met and appeared to feel they were dealing with something new and unusually effective in the educational world.

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[1]Harold J. Alford, Continuing Education in Action, (New York: John Wiley and Sons, Inc., 1968), p. 21.

[2]Directory of Residential Centers in the United States, Canada and Abroad (Chicago: Studies and Training Program in Continuing Education, 1967-68), pp. 1-50.

An unquestioning belief in the effectiveness of residential adult education has been a factor in the establishment of residential centers. Coffman, President of the University of Minnesota in 1935, supported his request for federal funds for the first university center for residential adult education with a statement that the project would do more to spread learning and to elevate the intellectual status of the area than any other project previously created for those purposes.[1] Even if the wording of more recent proposals has changed, present day administrators continue to express educational justifications for their efforts to develop residential adult education centers.

Thirty-three educators met at a residential one-week international conference to define and discuss residential adult education twenty years after Coffman made his statement. They noted that educational programs conducted at residential sites can be residential education or education-in-residence. Programs in which group living experiences are integrated with content activities in total educational experiences were considered residential education. Those educational programs held in residence in which social and academic activities are not integrated were considered education-in-residence.[2] These educators seemed to feel residential education required program consideration throughout the educational experience.

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[1]Letter from Lotus D. Coffman to R. A. Radford, August 22, 1935 (in University of Minnesota archives), quoted in Harold J. Alford, "A History of Residential Adult Education" (Chicago: Unpublished Ph.D. dissertation, Department of Education, The University of Chicago, 1966), pp. 181-82.

[2]Peter Siegle, "The International Conference on Residential Adult Education," Adult Education, VI, No. 2 (Winter 1956), 108.

For Siegle, residential education was not doing something better than it had been done in another location, it was doing something different in the educatiave process which was educationally effective.[1] Pitkin argued that the residential education setting made the educational effort effective regardless of the content.[2] Schacht maintained that residential education is a method consistent with contemporary principles of adult learning.[3] These three advocates of residential adult education who were describing temporary systems set up for change-inducing purposes became nationally known as champions of residential education. They, through their writings and speeches, established lasting descriptions of residential education which have not yet been tested empirically.

Determinants of Educational Effectiveness

Empirical tests of the comparative effectiveness of residential education and conventional classroom programs for adults have unfortunately not revealed significant differences between the programs.[4] Unidimensional

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[1] Ibid., p. 109.

[2] Royce S. Pitkin, The Residential SChool in American Adult Education: Notes and Essays, No. 14 (Chicago: Center for the Study of Liberal Education for Adults, 1956), p. 1-38.

[3] Robert H. Schacht, "Residential Adult Education: An Analysis and Interpretation" (Madison: Unpublished Ph.D. dissertation, University of Wisconsin, 1957), p. 347.

[4] A. A. Lacognata, A Comparison of the Effectiveness of Adult Residential and Non-Residential Learning Situations, Research Reports (Chicago: Center for the Study of Liberal Education for Adults, 1961), pp. 2-19 and King M. Wientge and James W. Lahr, The Influence of Social Climate on Adult Achievement, University College Research Publications, No. 10 (St. Louis: Washington University, 1966), p. 10.

investigations like these early studies do not offer much promise of increasing our knowledge of characteristics of residential education which may influence cognitive and affective learning. This study was therefore designed to investigate residential education by testing responses of participants to residential programs in an effort to describe the nature of residential adult education short courses and identify the mechanisms through which it operates.

The statements of Siegle, Pitkin, and Schacht on residential adult education were used as a basis for developing refined tests of the alleged effectiveness of residential learning experiences. These advocates included a number of terms in their descriptions of residential education which for the purpose of this study were subsumed under three factors alleged to determine residential adult education effectiveness: (1) isolation from the outside environment, (2) concentration on, or intense exposure to the content, and (3) group support.

This research was designed to investigate the independent and collective relationships of different levels of these three determinants with the cognitive gain and the posttest achievements of participants at residential adult short courses. In an effort to investigate the advocates' contention of depth in learning at residential education experiences, tests designed to reveal the relationship between the determinants and the application, analysis, synthesis and evaluation[1] or "high level" cognitive achievement of the participants were included in the research. Recognition of inevitable differences in the predispositions of participants at short courses

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[1]Benjamin S. Bloom, ed., Taxonomy of Educational Objectives, The Classification of Educational Goals, Handbook 1: Cognitive Domain (New York: David McKay Company, Inc., 1956), pp. 62-200.

led to an added test designed to compare the relationship between the participants' need for achievement[1] and cognitive achievement to see which of these types of variables most highly predicts cognitive achievement.

THEORETICAL FRAMEWORK

Residential education programs can be viewed as temporary systems set up for change-inducing purposes by virtue of their educational design and anticipated duration.[2] The positive characteristics of these systems identified by Miles have been synthesized with comparable statements of the advocates to describe the three determinants. The resulting formulation serves as the framework for the study.

Through the functioning of temporary systems, a feeling of group isolation is created[3] at a residential education program. The system presumably gives rise to the variables of isolation, concentration, and group support.

Group isolation is created by gathering residential short course participants together, setting them apart from those with whom they regularly interact. Routine responsibilities and accompanying distractions are excluded from the temporary system. The participants are encouraged to confine their attention to the program situation throughout its limited duration.

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[1]David C. McClellant et al., The Achievement Motive (New York: Appleton-Century-Crofts, Inc., 1953), pp. 97-138.

[2]Matthew B. Miles, Innovation in Education (New York: Bureau of Publications, Columbia University, 1964), p. 457.

[3]Ibid., pp. 452-476.

Group isolation is a physical fact which becomes a reality for the participants when they perceive its characteristics. The residential program accommodations and services eliminate most needs for contact with the outside environment. Participants are given the opportunity to perceive their situation and feel insulated from their regular responsibilities. They may use these perceptions in organizing their resources for program achievement.

Content concentration focuses the attention of residential program participants on the substance or the meaning of the short course attended. Most awakened energies are channeled into activities which support efforts to learn a body of knowledge and understanding its ramifications. The participants are encouraged to undertake productive educational activity throughout their short course.

Participants may be expected to study and perceive the intense exposure of the content during a short course. The periods of study activity and numbers of contacts with cognitive materials, program staff and peers in attempts to master the knowledge to be learned are expressions of content concentration. Situational factors encourage the participants to strive for achievement as they perceive the content characteristics of their system. They may use these perceptions in goal directed efforts which support the program objectives.

Group support is developed among program participants as they encourage and help one another during a residential short course. They are involved in a common experience. They develop sentiments and a group climate which promotes development of group goals. A sense of common concern encourages the participants to function as a unit as they organize their activities for program effectiveness.

Group support develops through friendship ties and perceptions of mutual trust. Friendships tend to develop easily in the temporary system. Power and role leaders are perceived as the group begins to function as a unit. The system becomes the focus of attention as the participants develop a "cultural island"[1] by closing their attention to the outside environment. Interpersonal contacts support the group effort as the participants act to achieve.

Rationale for the Study

The study was designed to answer four questions: (1) Will the determinants individually predict cognitive achievement? (2) Will they collectively predict cognitive achievement at higher levels than those predicted by individual determinants? (3) Will they predict "high level" cognitive achievement at more significant levels than those predicted for all six levels of cognitive achievement? And, (4) Will the determinants predict cognitive achievement at higher levels than those revealed when n Achievement predicts cognitive achievement?

Six personal characteristics of the participants were considered as potential confounding influences on the relationships between the other variables. Each participant's age, marital status, level of educational attainment, number of similar programs previously attended, perceived selection procedure for attendance, and expected level of isolation from the outside environment were considered in these comparisons.

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[1]K. Lewin, Field Theory in Social Science, ed. by D. Cartwright (New York: Harper, 1951), p. 232.

Hypotheses

Six hypotheses were investigated through correlation coefficient and regression analysis procedures. Each of the determinants contains two components. The first is made up of reports by the participants on their activities while at the residential program. It is referred to as the activity-based component. The second is made up of measured perceptions of how participants felt about characteristics in the group isolation, content concentration and group support determinants. It is referred to as the perceived component. The components of a determinant were treated individually and collectively in the tests of each determinant.

It was hypothesized that within each residential education experience:

1. There is a positive correlation between the participants' group support scores and their cognitive achievement scores.

2. There is a positive correlation between the participants' content concentration scores and their cognitive achievement scores.

3. There is a positive correlation between the participants' group isolation scores and their cognitive achievement scores.

4. There is a cumulative positive correlation between the participants' group support, content concentration and group isolation scores, and their cognitive achievement scores.

5. There is a stronger positive correlation between the participants' scores on the determinants and their "high level" posttest scores than between the participants' scores on the determinants and their cognitive achievement scores.

6. There is a stronger positive correlation between the participants' group support, content concentration and group isolation scores and their cognitive achievement scores than between the participants' n Achievement scores and their cognitive achievement scores.

RESEARCH DESIGN

The hypotheses were tested through statistical procedures on data collected from 104 of the 163 participants at the four short courses. Seven female participants whose n Achievement scores could not be satisfactorily compared with the male participants' scores, twenty-three participants who did not attend all program functions, and an added twenty-nine participants who had taken part in an essentially identical program earlier, were eliminated from the sample. All participants at each short course completed data collection functions. The sample did not differ demographically from the total number of male participants nor from the total number of participants when their sex was ignored.

Data Collection

Data were collected at four residential adult education short courses of two program types. The sample included: (1) eighty-four participants at three didactic or teacher-centered introductory insurance fundamentals five-day short courses held at the Michigan State University Kellogg Center, and (2) twenty participants at a relatively dialectical or student-centered advanced application of adult education principles seven-day course held at the University of Chicago Center for Continuing Education. Although both types of short courses are representative of content dominated residential programs in the Buskey typology,[1] a marked difference existed between them

[1]John H. Buskey, "The Development and Testing of a Typology of Adult Education Programs in University Residential Centers" (Chicago: Unpublished Ph.D. dissertation, Department of Education, 1970), pp. 104-51.

in the levels of program intensity, participant control, discussion, and content studied.

Operationalizing the Research Model

The descriptions of regularities in temporary systems were summarized in an inventory of determinant dimensions which was used in operationalizing the determinants. Sets of items and instruments were developed, tested for content and construct validity, and pretested in a pilot study which reliably measured the dimensions in the temporary system model.

Two types of data were used to measure degree of conformity to the determinants. These activity-based and perceived components of the three determinants were each subdivided into dimensions which were measured by items in the instruments used for data collection.

Activity-based development of friendship ties and perceived components of group support were used in measuring responses to the group support determinant. The friendship ties data identified each participant's pre- and post-program knowledge of others involved in the program and their knowledge of him. The perceived component data measured responses to regularities in eleven group support dimensions of the temporary system model.

Activity-based and perceived components of content concentration were used in measuring responses to the content concentration determinant. Frequency and time period activity dimensions were considered in measuring the activity component and nine perceived dimensions were considered in measuring the perceived component of the variable.

Activity-based and perceived components of group isolation similarly facilitated measurement of the group isolation determinant but the activity measure used was frequency and time periods in violation of the group environment. Five dimensions were used to measure the perceived componment of the variable.

The data were collected on entry, daily record of activity, daily feedback, and last day forms. A record of formal program verbal activity was developed through use of a systematic observation procedure. The record provided a context in which the specific sets of data could be related to conditions during their collection.

Measuring Individual Differences

The procedure developed by McClelland in his classic studies[1] was replicated for the collection of need for achievement data. The data on other personal characteristics of the participants were collected on the entry form.

Each subject completed a pretest and a posttest on cognitive content of the short course which he attended. An official state insurance qualifying examination and three cognitive tests developed specifically for the research were used in collecting cognitive achievement data.

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[1]McClelland, op. cit.

Tests of Instrumental Validity

The level of validity was appraised for each instrument. The reliability and validity of the four short course forms were appraised by interviews conducted at a pilot study in which oral responses were compared to earlier written responses from the same subjects. Revisions were made in twenty-seven items and one form prior to data collection. The validity of the n Achievement testing procedure is amply established. A judge with satisfactory reliability in scoring n Achievement stories scored these data. Spearman-Brown split-half reliability coefficients of ≥86 were revealed for the posttests while the pretest level of reliability was lower at the introductory programs and higher at the advanced program than the posttest reliability.

Treatment of the Data

Preparation of the data for the analysis yielded Pearson R correlations between the dimensions, the components and the determinants. All variables were sorted into five factors in a Mesa 85 factor[1] analysis. Relationships between the independent variables and selected personal characteristics were revealed in Mesa 85 regression analyses.[2]

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[1]This Mesa 85 subprogram identifies principle components in the sets of data included in the analyses.

[2]The independent variables are ordered by their strength as predictors of the dependent variable in the Mesa 85 regression analysis. The independent variable which accounts for the largest amount of least squared variance in the dependent variable multiple R is partialed first in the analysis.

Group isolation appeared as the most internally consistent and clearly defined determinant. The content concentration and group support levels of internal consistency decreased in that order, but each was separated from the other variables with dimensions which were correlated relatively consistently with cognitive achievement.

The factor analysis revealed five combinations of data which are representative of the variables studied. It revealed each of the three determinants and its components, a residential atmosphere factor and a need achievement factor. The correlations between the units in each determinant are indicative of the similarities in the units factored. The residential atmosphere factor seemed to be an expression of a common characteristic in the perceived data. It represented the feeling of friendliness and trust common to the descriptions of the determinants. The n Achievement data clearly factored in a way which separated this variable from the temporary system determinants.

The regression of the specific personal characteristics on the determinants and n Achievement revealed no significant relationships which could not be explained by group differences or data strengthening relationships, i.e., expected isolation with activity in group isolation. The influences of these characteristics were tested further by entering the characteristics in a cognitive achievement regression analysis. One group had personal characteristics which related to cognitive achievement in a positive direction at levels $<.01$ probability (i.e., greater age, more conference experience) and other personal characteristics which related to cognitive achievement in a negative direction at levels of $<.05$ probability (i.e., marital status of the married, expectations for group isolation). The relationships are generally higher than those between the determinants

and cognitive achievement. Only this group contained a substantial number of participants who came from communities populated by minority groups. They were comparable educated and selected for program participation but observably reacted to the program milieu in ways different from the other introductory program groups most similar to them. They appeared to experience difficulty in adapting to the residential education environment. The other groups experienced none of these effects. Although the findings based on the affected group are reported, they do not differ markedly from the findings for the other two groups of participants who attended essentially identical programs.

CONCLUSIONS

Residential facilities do not appear inextricably linked with superior adult learning experiences. Instead, the characteristics of the program and the predisposition of the learners appeared to be consistently of greater predictive value than the simple fact of residence. The hypothesized relationships between the determinants and cognitive achievement were generally supported by the advanced program group. The programs seemed to provide different educational experiences.

Hypothesis 1: Within each residential education experience there is a positive correlation between the participants' group support scores and their cognitive achievement scores.

The findings in this study rest most firmly on the group support determinant. Participants at the advanced program who developed friendship ties and a sense of an esprit de corps learned more than those who did not, while participants in the introductory programs produced results which were diametrically opposed. The two components of group support were related to achievement in similar ways in the findings for three of the four groups. One introductory group (group 2) showed a sign of more learning with friendship development and opposing findings for perceptions of the group support determinant. This quiet and predictable group was observably different from the other introductory groups but the results indicate that the difference was significant only in the friendship ties component of group support. The hypothesized positive relationship between group support and cognitive achievement was rejected at the introductory programs but note is made that the advanced program findings supported the relationship with similar data for the components of the determinant. Participants who most nearly conformed to the characteristics of group support did learn more than those who responded to the determinant in other ways at the advanced short course, showing that the hypothesized relationship between group support and achievement can be realized in at least one type of short course.

Hypothesis 2: Within each residential education experience there is a positive relationship between the participants' content concentration scores and their cognitive achievement scores.

The content concentration determinant contributed little to the conclusions of the research. Study activity inconsistently related to learning while inconclusive findings were reported for perceptions of the determinant. The group which studied least seemed to benefit most from study while study contributed little or may have even been disfunctional for the most studious group. A minimum level of study seemed to be needed before alternative activity (e.g., interactions with the most informed) could be educationally productive. Peer discussions were educational for the most studious group but not for the minimum study group. Perceptions of the determinant were generally related to achievement in a negative way. The findings reject Hypothesis 2 and suggest that study activity appears essential to achievement but other data need to be considered in the development of an explanation of its relationship with learning at residential short courses.

Hypothesis 3: Within each residential education experience there is a positive correlation between the participants' group isolation scores and their cognitive achievement scores.

The introductory and the advanced programs resulted in significant positive relationships between perception of the group isolation environment and learning while the activity component related inconsistently and the determinant related less frequently with achievement. Perception of group isolation was a consistent low level predictor of cognitive achievement under both program conditions.

The physical fact of adherence to the residential environment was

inconsistently related to achievement in a way which could not be explained by the data. The alternative use of time while outside the residential facilities or some other unidentified dimension is apparently a stronger predictor of achievement than a simple record of group isolation violations.

The group isolation determinant significantly related to achievement for one of the four groups but the consistency of the relationship between perception of the determinant and achievement is the best indicator of the relationship between the determinant and achievement when the relationships for the activity component of group isolation cannot be explained. Recognizing that the levels of the relationships for this determinant are low, the consistency in the perceived component relationships indicates acceptance of Hypothesis 3 and suggests that it was what the participants believed about their immediate environment rather than what they reported their activity to be which was most consistently related to their learning of added content.

Hypothesis 4: Within each residential education experience there is a cumulative positive correlation between the participants' group support, content concentration and group isolation scores, and their cognitive achievement scores.

Combinations of the determinants generally related with learning at lower levels than those revealed for the separate determinants. The combination of the group support and content concentration determinants resulted in decidedly more negative relationships than those found in the separate analyses. The combination of the content concentration and group isolation data provided little evidence to differentiate the combined

and separate determinate findings. The combination of the group support and group isolation determinants resulted in an unexpected dampening of the negative relationships in the introductory programs, group support analyses and a strengthening of the positive relationships in the advanced program analyses. The combination of the three determinants resulted in non-significant findings.

The evidence indicates that there is a positive influence from the combination of the group isolation determinant with the other determinants but the degree of the influence and the findings from the other combinations of determinants do not warrant acceptance of Hypothesis 4. The hypothesized cumulative positive relationship between the combination of the determinants and learning is rejected. Differences in the relationships between the determinants and cognitive achievement eliminated the possibility for the hypothesized relationship to develop.

Hypothesis 5: Within each residential education experience there is a stronger positive correlation between the participants' scores on the determinants and their "high level" posttest item scores than between the participants' scores on the determinants and their cognitive achievement scores.

Comparisons of the findings of relationships between the determinants and the two measures of cognitive achievement revealed few differences in the results of the two sets of analyses. The "high level" achievement analysis of group support was not as sensitive to differences which resulted in significant correlations as was the cognitive achievement analysis. A number of positive and negative findings did not appear in the "high level" analysis. The content concentration findings are similar in both sets of analyses. Almost identical levels of relationships appeared between group isolation and the two measures of cognitive achievement.

Hypothesis 5 is rejected with little evidence to suggest that participants who most nearly conformed to the determinants learned content at a greater depth than those who reacted to the program milieu in other ways.

Hypothesis 6: Within each residential education experience there is a stronger positive correlation between the participants' group support, content concentration and group isolation scores and their cognitive achievement scores than between the participants' n Achievement scores and their cognitive achievement scores.

The need for achievement, unlike that for any determinant, consistently related with cognitive achievement. Only the perceived component of group isolation resulted in similar but lower level findings in the analysis.

The n Achievement variable is more strongly related to cognitive achievement than any determinant when the data from the introductory program groups or the sample are combined. The positive relationship is exceeded only by that between group support and cognitive achievement in the advanced program data. Hypothesis 6 is rejected but the findings suggest that the program milieu can and indeed did override the positive relationship of n Achievement and cognitive achievement at the advanced program.

Generally, the determinants were related to cognitive achievement in a negative direction at the introductory programs and in a positive direction at the advanced program. Personal characteristics of the participants, whether they were n Achievement or the other six characteristics considered, did not measurably influence the findings on the determinants even when group differences were considered in the analysis.

The facilities also apparently had little to do with the difference in the findings. All short courses were held in comparable facilities, but the introductory programs resembled those held in a classroom at a hotel while the advanced programs resembled the temporary system described by Miles.[1] In the absence of a strongly significant, positive relationship of group isolation, content concentration and group support with cognitive achievement, n Achievement was the best single predictor of cognitive achievement at the education-in-residence introductory programs, while group support was an even better predictor of learning than the need for achievement at the residential education advanced program. The educational milieu did override personal differences in the prediction of cognitive achievement at the advanced program.

Implications

The conclusions of the research demonstrate that there are functional benefits from viewing residential education as temporary systems. It provides a way to study units in the system or the entire system without collecting inordinate amounts of extraneous information. The conclusions suggest that an attempt to develop more precise measurements of perceptions of the determinants for use in studying the program milieu might be fruitful. Observations at the four short courses and follow-up information collected from the pilot study group strongly indicate that effective learning might be as significant an indicator of achievement as

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[1]Miles, loc. cit.

cognitive learning in the assessment of benefits from residential education programs. Residential education may be most educational for those who frequent facilities like residential centers.

Program staff who direct residential short courses must consider the scope of possibilities in the application of the conclusions to this research. The short course which involved participants in social and educational functions during a continuing experience of programmed residential activities resulted in positive findings. The other three programs resulted in negative findings suggesting that the relationships may be varied in their application to similar programs.

Group isolation seems to be a determinant with potential positive or negative effects on achievement. A participant who perceives himself isolated from his responsibility may use his feeling of freedom to support program objectives or do alternative activities. The program which is organized during classroom and non-classroom hours appears most predictably related to high achievement.

Content concentration seems essential to achievement but it may operate in unpredicted ways. There seems to be a substantively different result from continued concentration on the content, which is normally competitive in nature, and perceptions of concentration coupled with productive group interactions. The appropriate use of human resources during a residential education experience may be the development of content concentration in a way which removes some of the competition in continued study activity by replacing it with cooperation during group learning activities.

The group support determinant appears most dependent on program development factors during a residential education experience.

Participants who develop awareness of group isolation and function at a satisfactory level of study activity appear more inclined to develop group support activities which support the program objectives. Group isolation which is not program oriented may result in group support activity directed to other functions. The program appears as a major factor in the development of desired group support activity.

Development of the group isolation environment which focuses on the educational purposes of the program seems to be a function of the program milieu rather than control of the group isolation component of the educational experience. Programs which successfully focus attention on the educational purposes of the residential experience through planned formal program and after-hour activities seem to offer greatest opportunity for development of a feeling of group support which complements learning.

Evidence collected on the personal characteristics of the participants suggests residential education may be less well suited to education for the disadvantaged than to education for those from the mainstream of our society. Programmers might consider the use of special orientation or even special programs to alleviate these possible conditions if they become responsible for programs to be attended by the disadvantaged.

The findings indicate that a wide difference exists between the theoretical description of residential education and the programs conducted at residential centers. If facilities are being constructed and used to meet educational ends, it is apparent that an added consideration must be made in the form of programs designed to meet those ends. Those responsible for developing and administering residential education must consider development as a continuous procedure in which the uses made of the facilities

are of equal importance to the construction of the program site.

Limitations

The temporary system model was developed and used to see if purported educational benefits supported the program objectives at the four short courses. The group which did support the hypothesis also happened to be highly educated and achievement oriented, thus limiting the generalizability of the findings. Inconsistencies in the measurement of the determinants tended to lower the sensitivity of the tests of the hypotheses. The qualifying characteristics of the introductory program posttest also tended to lower the sensitivity of the tests by discriminating between participants within a narrow range. Through the use of standard scores, data from different groups of participants and different units in the determinants were pooled for analysis purposes. The exact source of each set of data should be considered in attempting to apply the findings of the research to residential program conditions.

Suggestions for Further Research

Relationships between participant responses to the residential program milieu and cognitive achievement need to be clarified. The relationships of study activity and isolation in group environment with achievement were inconsistent. A study which clarified these relationships and the relationship of activity in general with cognitive achievement would facilitate broader use of the temporary system approach to residential education research, particularly in the most common short term conference programs.

The possible influence of the program on "high level" achievement may warrant investigation, using more precise measures of achievement. The performance of participants who lack the socio-economic background and experience in similar activities to function with confidence in residential education programs needs to be investigated. Affective as well as cognitive changes should be considered in the measurement of achievement in future studies in order to more fully appraise the effects of residential education experiences.

A functional type of research could also use the temporary system approach for studies of creative programs. If the effects of heightened significance and group feelings are as significant predictors of temporary system achievement as has been suggested, programmers should explore the impact of maximizing them in unusual programs at residential centers. The research procedure, used in part or in its entirety, could test the differences related to creative program conditions.

This research has served to emphasize that the key to enhancing adult learning appears to lie more clearly in program development than in architectural designs.

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